



**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of

Docket No: Q78162

Yoshiyuki FUKUMOTO, et al.

Appln. No.: 10/697,124

Group Art Unit: 2836

Confirmation No.: 8462

Examiner: Not Yet Assigned

Filed: October 31, 2003

For: MAGNETORESISTANCE DEVICE AND METHOD OF FABRICATING THE SAME

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

- | <u>1. Serial No.</u>   | <u>Applicant's Name</u>    | <u>Filing Date</u> |
|--|----------------------------|--------------------|
| 10/539,373   | Yoshiyuki FUKUMOTO, et al. | June 16, 2005      |
| 2. Japanese Patent Application Publication No. 62-132211, published June 15, 1987.       |                            |                    |
| 3. Japanese Patent Application Publication No. 3-268216, published November 28, 1991.    |                            |                    |
| 4. European Patent Application Publication No. 1 202 357, published May 2, 2005.         |                            |                    |
| 5. Japanese Patent Application Publication No. 2002-329903, published November 15, 2002. |                            |                    |

INFORMATION DISCLOSURE STATEMENT

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6. Japanese Patent Application Publication No. 2003-273420, published September 26, 2003.
7. J. J. Sun, et al.; "Low resistance and high thermal stability of spin-dependent tunnel junctions with synthetic antiferromagnetic CoFe/Ru/CoFe pinned layers"; Applied Physics Letters; April 24, 2000; Vol. 76, No. 17; pages 2424-2426.
8. S. Cardoso, et al.; "Influence of Ta antidiffusion barriers on the thermal stability of tunnel junctions"; Applied Physics Letters; June 19, 2000; Vol. 76, No. 25; pages 3792-3794.
9. T. Ochiai, et al.; "Improved Thermal Stability of Ferromagnetic Tunnel Junctions With a CoFe/CoFeO<sub>x</sub>/CoFe Pinned Layer"; IEEE Transactions on Magnetics; September 2003; Vol. 39, No. 5; pages 2797-2799.

One copy of each of the listed documents is submitted herewith, except for the co-pending non-provisional U.S. application filed after June 30, 2003.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

In compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents, Applicant states that above references 2 and 3 are discussed within the specification of co-pending U.S. Application No. 10/539,373, beginning at page 10, line 27, and page 11, line 8, respectively. Regarding above references 5 and 6, Applicant encloses herewith a copy of an International Search Report issued in the International Application corresponding to co-pending U.S. Application No. 10/539,373, which cites these documents and indicates the degree of relevance found by the foreign patent office.

INFORMATION DISCLOSURE STATEMENT

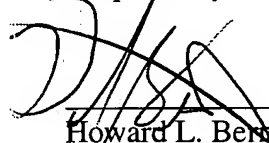
U.S. Appln. No.: 10/697,124

Atty. Docket No.: Q78162

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

  
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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: December 7, 2005

Substitute for Form 1449-A & B/PTO			Complete if Known		
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>			Application Number	10/697,124	
			Confirmation Number	8462	
			Filing Date	October 31, 2003	
			First Named Inventor	Yoshiyuki FUKUMOTO	
			Art Unit	2836	
			Examiner Name	Not Yet Assigned	
Sheet	1	of	1	Attorney Docket Number	Q78162

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code <sup>2</sup> (if known)		
		US			
		US			
		US			
		US			
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		US			
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		US			
		US			

## FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation <sup>6</sup>
		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)			
		JP	62-132211	A	06-15-1987		
		JP	3-268216	A	11-28-1991		
		EP	1 202 357	A2	05-02-2002	Matsushita Electric Industrial Co., Ltd.	
		JP	2002-329903	A	11-15-2002		
		JP	2003-273420	A	09-26-2003		

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation <sup>6</sup>
		U.S. Appln. No. 10/539,373, filed by Yoshiyuki FUKUMOTO, et al. on June 16, 2005.	
		J. J. Sun, et al.; "Low resistance and high thermal stability of spin-dependent tunnel junctions with synthetic antiferromagnetic CoFe/Ru/CoFe pinned layers"; Applied Physics Letters; April 24, 2000; Vol. 76, No. 17; pages 2424-2426.	
		S. Cardoso, et al.; "Influence of Ta antidiffusion barriers on the thermal stability of tunnel junctions"; Applied Physics Letters; June 19, 2000; Vol. 76, No. 25; pages 3792-3794.	
		T. Ochiai, et al.; "Improved Thermal Stability of Ferromagnetic Tunnel Junctions With a CoFe/CoFeOx/CoFe Pinned Layer"; IEEE Transactions on Magnetics; September 2003; Vol. 39, No. 5; pages 2797-2799.	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kind Codes of USPTO Patent Documents at www.uspto.gov, MPEP 901.04 or in the comment box of this document. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to indicate here if English language Translation is attached.